CLAIMS

What is claimed is:

1. A snap ring, comprising:

a ring having an interior contour that extends about an opening, the interior contour having a first segment that is defined by a first radius that is rotated about a first origin within the opening, and at least one second segment that is defined by a second radius that is rotated about a second origin within the opening.

2. The snap ring of claim 1, wherein the radial reach of the second radius exceeds the radial reach of the first radius at least at one point on the interior contour.

3. The snap ring of claim 1, wherein the first origin and the second origin are not coincident.

4. The snap ring of claim 1, wherein the first segment amounts to at least 50% of the interior contour.

5. The snap ring of claim 2, wherein the first segment joins the second segment without a distinct radial step discontinuity.

6. The snap ring of claim 2, wherein the radial reach of the second radius exceeds the radial reach of the first radius by a non-zero amount at least at one point within a region of the interior contour where contact with another solid object occurs during installation of the snap ring.

7. The snap ring of claim 6, wherein said interior contour has a first interior edge bordering a first face of the snap ring and a second interior edge bordering a second face of the snap ring, the first interior edge having a cross-sectional profile that includes die roll, and the second interior edge having a cross-sectional profile that is blunted at least at a location within said region.

8. The snap ring of claim 6, further comprising at least one tooling hole, and wherein said amount is small enough that the resulting ratio of the cubed width of the snap ring measured at said point divided by the distance between the contacting region and said tooling hole, is at least half of the minimum ratio of the cubed width of the snap ring measured at any other place on the snap ring divided by the distance from said place to said tooling hole.

9. The snap ring of claim 7, wherein said blunted cross-sectional profile is a rounded profile.

10. The snap ring of claim 7, wherein said blunted cross-sectional profile is a beveled profile.

11. The snap ring of claim 9, wherein said rounded profile is characterized by a radius of curvature that is chosen to be in the design range of 40% to 85% of the thickness of the snap ring.

12. The snap ring of claim 10, wherein said beveled profile is characterized by a bevel angle that is chosen to be in the design range of 10 to 40 degrees from the vertical axis.

13. The snap ring of claim 10, wherein said beveled profile is characterized by a bevel depth that is chosen to be in the design range of 60% to 85% of the thickness of the snap ring.

14. An actuator arm assembly for an information storage device, comprising:

an actuator; and

an actuator pivot bearing; and

a snap ring retaining the actuator pivot bearing relative to the actuator, the snap ring comprising an interior contour extending about an opening, the interior contour having a first segment that is defined by a first radius that is rotated about

a first origin within the opening, and at least one second segment that is defined by a second radius that is rotated about a second origin within the opening.

15. The actuator arm assembly of claim 14, wherein the radial reach of the second radius exceeds the radial reach of the first radius at least at one point on the interior contour.

16. The actuator arm assembly of claim 14, wherein the first origin is not coincident with the second origin.

17. The actuator arm assembly of claim 14, wherein the first segment amounts to at least 50% of the interior contour.

18. The actuator arm assembly of claim 15, wherein the first segment joins the second segment without a distinct radial step discontinuity.

19. The actuator arm assembly of claim 15, wherein the radial reach of the second radius exceeds the radial reach of the first radius by a non-zero amount at least at one point within a region of the interior contour where contact with another solid object occurs during assembly.

20. The actuator arm assembly of claim 19, wherein said interior contour has a first interior edge bordering a first face of the snap ring and a second interior edge bordering a

second face of the snap ring, the first interior edge having a cross-sectional profile that includes die roll, and the second interior edge having a cross-sectional profile that is blunted at least at a location within said region.

21. The actuator arm assembly of claim 19, wherein the snap ring further comprises at least one tooling hole, and wherein said amount is small enough that the resulting ratio of the cubed width of the snap ring measured at said point divided by the distance between the contacting region and said tooling hole, is at least half of the minimum ratio of the cubed width of the snap ring measured at any other place on the snap ring divided by the distance from said place to said tooling hole.

22. The actuator arm assembly of claim 20, wherein said blunted cross-sectional profile is a rounded profile.

23. The actuator arm assembly of claim 20, wherein said blunted cross-sectional profile is a beveled profile.

24. The actuator arm assembly of claim 22, wherein said rounded profile is characterized by a radius of curvature that is chosen to be in the design range of 40% to 85% of the thickness of the snap ring.

25. The actuator arm assembly of claim 23, wherein said beveled profile is characterized by a bevel angle that is chosen to be in the design range of 10 to 40 degrees from the vertical axis.

26. The actuator arm assembly of claim 23, wherein said beveled profile is characterized by a bevel depth that is chosen to be in the design range of 60% to 85% of the thickness of the snap ring.

27. A snap ring, comprising:

a ring having an interior contour extending about an opening, the interior contour having a first segment that is defined by a first radius that is rotated about a first origin, and means for spreading physical contacts between said interior contour and a solid object with cylindrical cross-section inserted into the opening.

28. A method for assembling an actuator arm assembly in an information storage device, comprising:

fabricating a stamping die punch having an edge with a first segment that is defined by a first radius that is rotated about a first internal origin, and at least one second segment that is defined by a second radius that is rotated about a

second internal origin, the radial reach of the second radius exceeding the radial reach of the first radius at least at one point on the contour; and

stamping an interior contour in a metal sheet to create an opening for a snap ring, using said stamping die punch.

29. The method of claim 28, further comprising blunting an interior edge of said interior contour that lacks die roll from said stamping.

30. A die for stamping an interior contour in a snap ring, comprising:

a punch having an edge with a first segment that is defined by a first radius that is rotated about a first internal origin, and at least one second segment that is defined by a second radius that is rotated about a second internal origin, the radial reach of the second radius exceeding the radial reach of the first radius at least at one point on the contour.